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PROVINCE OF ALBERTA
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CARE OF PACKAGE BEES IN ALBERTA

by

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HANDLING PACKAGE BEES

Foreword

A great many losses and disappointments occur with package bees that have been mis-managed. By following the instructions contained in this leaflet the average beekeeper will increase his chances of success by fifty per cent. The instructions are simple and cover three important points, namely:—Protection against cold, proper feeding and reduction of manipulation to a minimum.

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Care of Bees in the Package

Packaged bees are highly perishable. They chill and die readily when the temperature is below 50° F. and become over-heated and die quickly when the temperature is over 70° F. They are often on the point of starvation when they arrive.

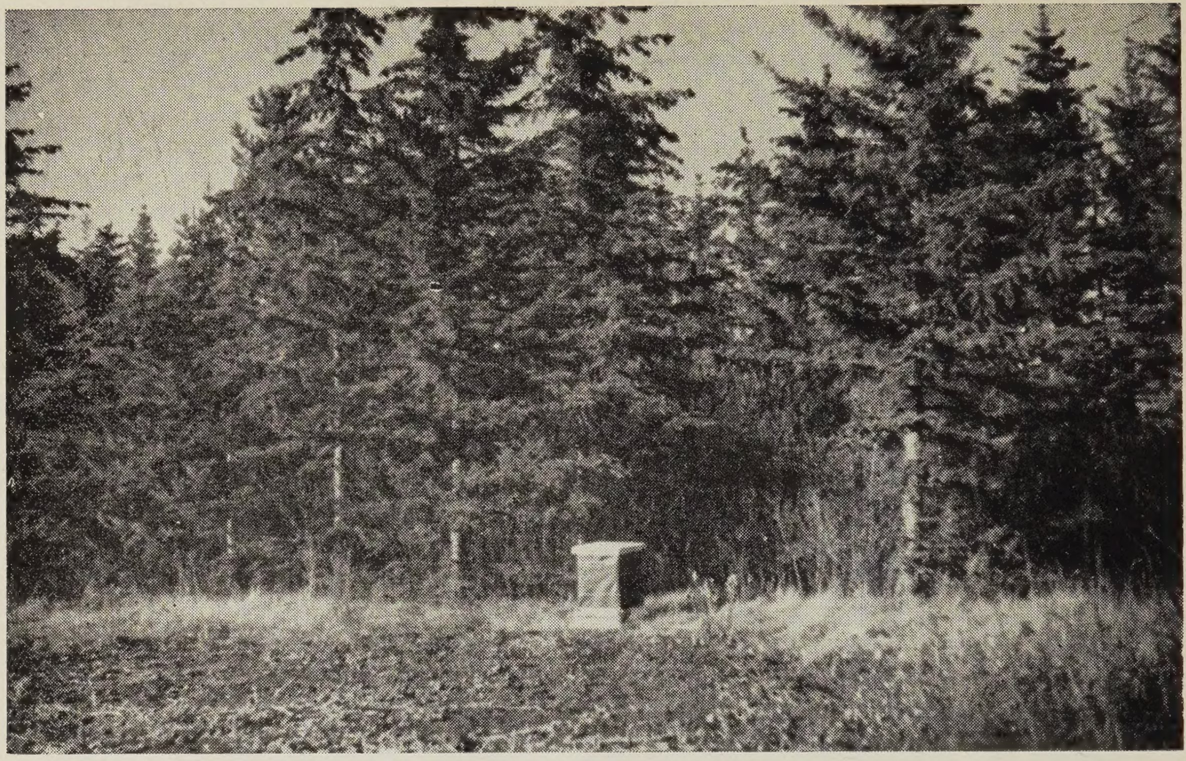
Bees should be placed in the hive as soon as possible after arrival because when established on combs they are better able to regulate conditions to suit their needs. The screened package is an unnatural environment for them. When closed in it they cannot take care of extremes of heat and cold as they can when in a hive.

Many packaged bees are spoilt by being too warm and excited in transit. When such bees are installed in the hive they dwindle and die off rapidly leaving very little brood and a weak colony. Packages that are badly chilled in transit are often too weak to establish themselves on combs. Many bees die and sometimes the queen becomes a drone layer.

Bees in packages should be fed by drizzling syrup, on the screens. Assuming the bees are warm enough to move about freely, they will take up the syrup—sometimes almost a cupful. Feeding cold bees this way will kill them.

The least injury to packages from wearing down or chilling occurs when the bees are in the dark and clustered quietly between temperatures of 60° F. and 70° F. and having been fed.

Two pound packages installed in April or early May usually give good results. To obtain good results from packages installed from May 5th to 25th the three pound size should be used. Packages arriving after May 25th do not usually produce any surplus honey.



A well situated hive. Sheltered from wind but exposed to the sun.

Preparation and Protection of the Hive

The hive should contain the equivalent of three well-filled combs of honey and two combs of pollen in a single brood chamber. An entrance block allowing only a one inch flight-hole is used.

The hive should be put out in its location when the package is on hand and ready to be installed. A hive that is outside without bees in it becomes chilled and is too cold to receive bees; there is also danger that the feed in it will be robbed-out by other bees.

In very cold weather a hot brick, placed in the hive before installing the package, will help the bees get established on the combs.

The hive should be so situated that it is protected against cold winds. A natural wind-break of spruce, willow and poplar is the best. If this is not available, artificial protection can be provided by a slatted fence such as snow fencing.

A hive wrapped with tar-paper. A great help in building strong colonies in spring.

Wrapping the hive in tar-paper is a great advantage; the black surface absorbs heat when the sun shines. This materially aids the bees in maintaining proper hive temperatures for brood rearing.

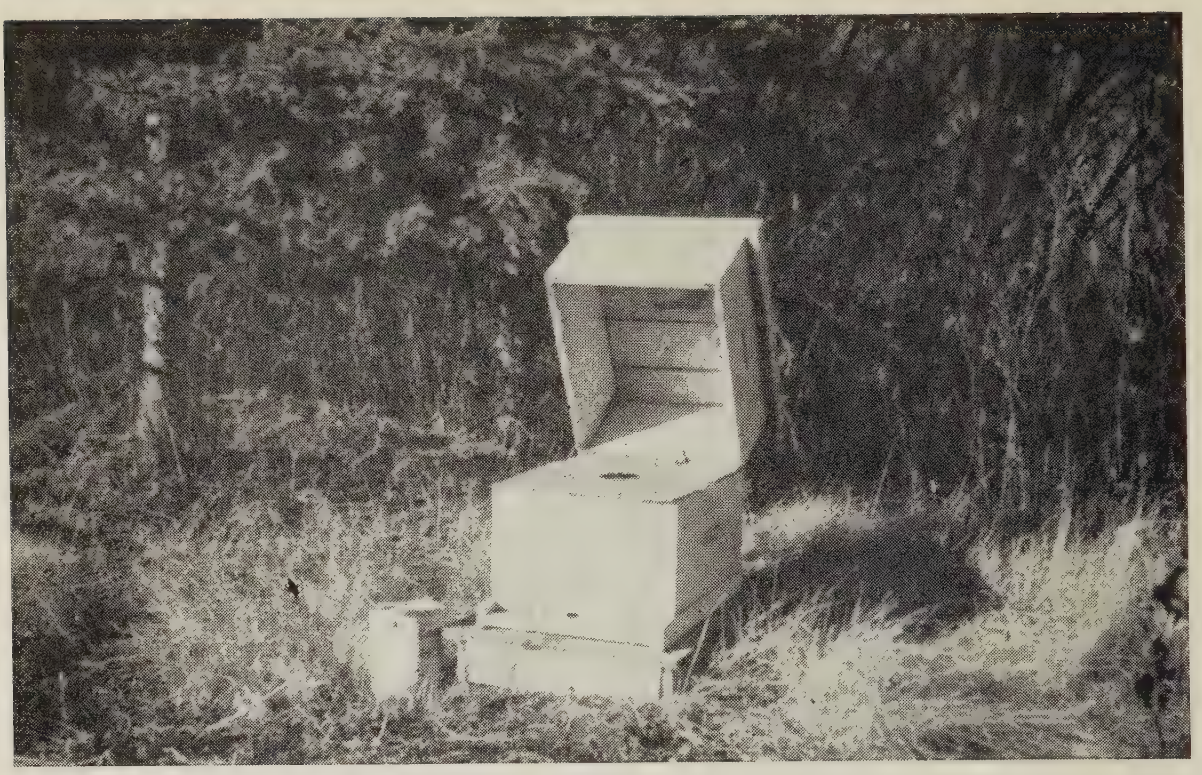
The package should be installed in a single brood chamber. The frames must be covered with a piece of sack or a honey board. A hole in this covering allows a can or jar of syrup to be inverted over the cluster of bees on the combs. An empty super and hive enclose the feeder.

There must be no cracks between brood chamber and bottom board, under the lid nor between supers. Cracks allow heat to escape from the brood nest and invite robbing by bees from established hives.

Feeding the Colony

The colony should never be allowed to run out of food in the combs. The best food for a package is honey. The most convenient way to feed it is in the combs—saved from the previous year. The equivalent of twenty to thirty pounds should be reserved for spring feeding. Sometimes the honey saved will be granulated, but the bees can use it unless it has become very hard. In this case the cappings can be shaved off or scraped and the combs soaked for 24 hours to soften the honey. The surplus water is shaken out and the combs put in the hive.

When a package is first installed, and if at anytime later the supply of honey gets low in a hive, a feed can of warm sugar syrup —made of at least one part of sugar to two parts of water—is placed



A properly hived package, having small entrance and the frames covered by a cardboard or burlap with a feed hole in it.

over the frames on which the bees are clustering. A hole is cut in the cloth or board covering the frames so that the bees have access to the inverted feed can.

Water, if not available otherwise, should be provided in a shallow trough or receptacle having boards floating in it. This prevents bees from drowning. A spoonful of salt per gallon of water seems to add to its attractiveness for bees.

Bees cannot rear brood without pollen. They will even gather chop when pollen is not available. This chop does them very little good as they cannot digest starch. Pollen combs, saved from the previous year, are the best food. Two such combs will generally be enough to supplement what the bees are able to gather from alder, birch, willow, dandelion and wild fruits in the spring.

A substitute for pollen is made as follows:

Soybean flour (expellor process) 8 parts.

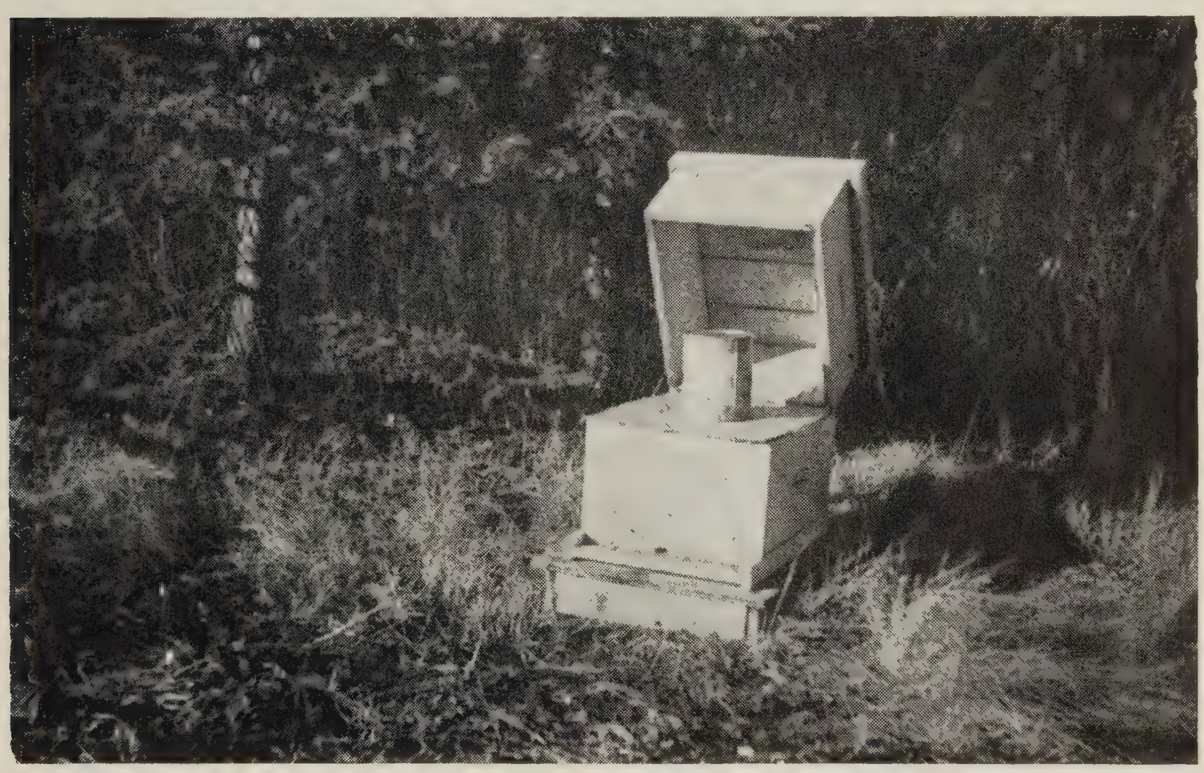
Dried Brewers Yeast (medicinal) 1 part.

Three parts of these two ingredients are mixed with two and one half quarts of sugar syrup (one and one half parts of sugar to one part water.) A little more of the dry material may have to be added to make a stiff dough. This is made into flat cakes which are placed over the top bars of the brood frames.

The best way to provide pollen is to reserve pollen combs from the previous year and whenever there seems to be a shortage in the hive put one or two in it at the sides of the brood nest.

When bad weather stops the flow of nectar or pollen coming into a hive the bees rapidly use up the stores in it. When these stores become short, brood production slows down, sometimes ceasing altogether. This often leads to supersedure, and even swarming when the new queen is produced.

It is very important that the hive be supplied with surplus stores of pollen and honey at all times. Slow, continuous feeding gives good results.



Colony showing feed can in position. When the super and lid are put in place there is but little loss of heat from the brood nest.

Examining the Hive

Once the package has been installed with food it should be left **undisturbed** for a week or ten days. After that time a brief examination should be made to see that there is brood and food. To disturb the hive before it is well established or during bad weather often results in the queen being balled and killed. If there is no brood obtain a new queen at once.

About four weeks after the package has been installed in the hive a thorough examination can be made to discover the amount of brood being produced and the amount of stores. It should be necessary to add a second brood chamber to allow sufficient space for the expanding brood nest at this time. The entrance can be enlarged to six or eight inches. If, at this second examination, the hive has no queen or made no progress, it should be united.

How to Introduce a New Queen

Keep the cage warm until ready to introduce the queen.

Remove any plug, other than candy, that may be at the candy end of the queen cage. Then place the cage, screened surface downwards, along the space between the top bars of frames where the bees are clustered. Sprinkle a little sugar syrup between frames and on the queen cage also give a feeding of syrup, unless there is a honey flow in progress at the time.

If the queen has not been released within 48 hours open one end of the cage so that she can go right out. Avoid exciting the queen and bees when doing this.

Warning: It is generally useless to try and introduce a new queen to a colony if there has been no queen or only a drone-layer for three weeks. Such colonies should be united.

Uniting Weak or Queenless Hives

To unite hives, remove the cover from a hive having a queen and place a single sheet of newspaper over the frames. Then lift the hive to be united off its bottom board and set it over the newspaper on the queen-right hive. The bees will gradually eat through the newspaper and unite without fighting. The queen will survive the uniting. This should be done in the evening or when the bees are not flying.

Another method is to sprinkle a little talcum powder on the bees in each hive before uniting them. No newspaper is used, thus no delay while the bees are gnawing through it.

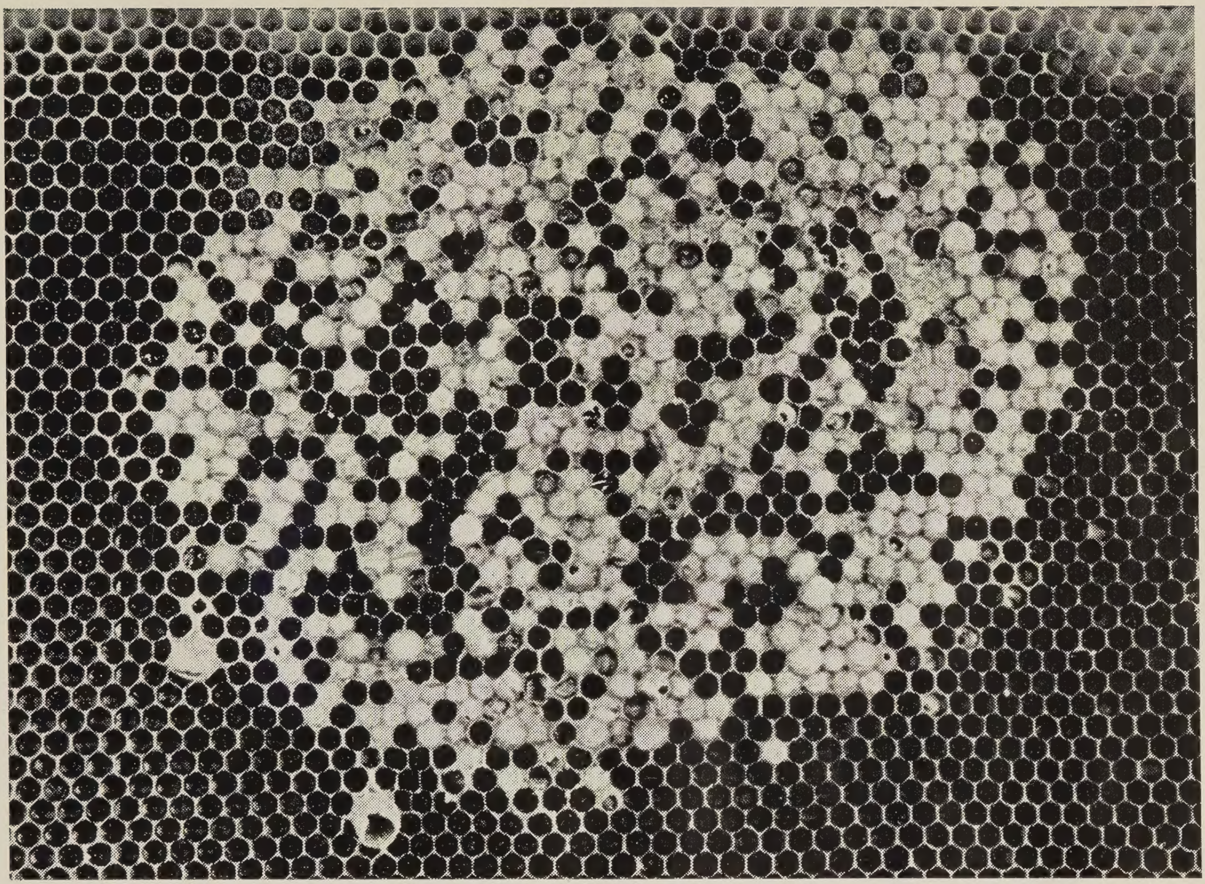
What To Do If:—

Queen is Dead on Arrival.

Examine the bees on the combs to make sure there is not a queen already amongst them. Sometimes there is a queen loose with them. If there is no queen obtain a replacement for the dead one as soon as possible from the supplier of the package. Before introducing her remove any queen cells that may have been started.

Queen Does Not Lay Any Eggs.

If, after two weeks, the queen is still in the hive, but has not laid any eggs, buy a new queen. When she arrives kill the original queen and then destroy any queen cells that are present and introduce the new queen.



Comb showing work of a drone-laying queen. All the capped cells, though originally worker size, have been enlarged. Two queen cells have been started by the bees. These will not produce queens.

Queen Lays Several Eggs in a Cell.

This condition usually corrects itself when the package bees become well established in the hive. It is seldom that such queens need replacing.

Queen Produces Drone Brood.

Buy a new queen as soon as possible and when she arrives kill the original queen and destroy the queen cells that may be present.

Queen Cells Appear—Supersedure.

Most hives will have queen cell cups here and there, these are probably in case of emergencies. They need not cause anxiety unless eggs or larvae are to be found in them. If the cells are well developed it means that the original queen is failing in some respect even though she may appear to be normal and the bees are going to supersede her with a daughter.

Either order a new queen and when she arrives kill the old one and cut out all the queen cells before introducing the new one, or, kill the old queen and allow the bees to raise a young one from the cells they have. If this is not done the hive often swarms when the young queen emerges.

Queen Disappears.

Obtain a new queen as soon as possible, but before introducing her be sure to destroy any queen cells that have been started.

Worker Bees Start Laying.

Unite the hive with another.

The Bees Drift Away.

If the bees drift away there is nothing that can be done except unite what are left with another colony.

Drifting away usually happens when a colony becomes disorganized by being robbed, queenless, starved, chilled or because the hive is objectionable for some reason.

Management Calendar

Package Colonies

April	1. Prepare hives for packages. 2. Install package.
Mid-May	1. Feed if necessary. 2. Add second brood-chamber to strong colonies.
Mid-June	1. Demaree strong colonies. 2. Add supers. 3. Unite weak colonies. 4. Inspect for disease.
End July	1. Extract honey giving supers back to colonies.
Early August	1. Cage queens.
10th August	1. Destroy queen cells.
Early September.	1. Kill colonies. 2. Extract surplus honey. 3. Store brood nests.